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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,914	01/08/2002	Malcolm M. Smith	062891.0640	4526
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BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980			EXAMINER MATTIS, JASON E	
			ART UNIT 2616	PAPER NUMBER

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/042,914	Applicant(s) SMITH ET AL.	
	Examiner Jason E. Mattis	Art Unit 2665	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-11 and 13-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 9-11, and 13-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. This Office Action is in response to the amendment filed on 12/20/05. Due to the amendment, the previous objections to the drawings and to the claims have been withdrawn. Claims 2, 8, and 12 have been cancelled. Claims 1, 3-7, 9-11, and 13-33 are currently pending in the application.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-4, 6-7, 9-11, 13-14, 16-18, 20, 22-24, 26-27, 29-31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (U.S. Pat. 6618397) in view of Yamaji (U.S. Pat. 6141385).

**With respect to claims 1, 11, and 16**, Huang discloses a system and method for compressing packets (**See column 7 lines 22-39 of Huang for reference to a system and method for group packet encapsulation and compression**). Huang also discloses that the method and system is implemented as logic embedded in a computer readable medium (**See column 7 lines 49-64 of Huang for reference to the system functionality being implemented in software running on a device such as a personal**

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**computer)**. Huang further discloses receiving at a first network device a plurality of packets with each packet being from a separate one of a group of media streams (See column 8 lines 9-25 and Figures 5B and 6 of Huang for reference to receiving packets at GIEC Node-X 602, which is a first network device, with the packets being from different media streams each having a common GIEC node in the streams). Huang also discloses each packet comprising a payload and a header (See column 11 lines 34-47 and Figures 7A-C of Huang for reference to each packet received at a GIEC node including both a payload and a header). Huang further discloses generating a group packet including a group identifier (See column 8 lines 26-49 and Figures 5B and 6 of Huang for reference to combining packets into an encapsulation GIEC packet, which is a group packet, in step 556, compressing packet headers in step 558, and adding a GIEC header, which contains a group identifier, to the packet in step 560). Huang also discloses that the group packet includes a payload of each of the packets (See column 8 lines 26-49, column 11 line 48 to column 13 line 5, and Figures 7D-F of Huang for reference to the encapsulation GIEC packet being in the different possible formats shown in Figures 7D-F with each format including the payloads of each of the encapsulated packets). Huang further discloses communicating the group packet to a second network device (See column 8 lines 26-49 and Figures 5B and 6 of Huang for reference to transmitting the packet to a destination GIEC Node-Y 604, which is a second network

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**device)**. Huang does not disclose that each media stream is synchronous and identifying a group by determining that the streams have the same periodicity.

**With respect to claim 7**, Huang discloses a communication device **(See column 7 line 65 to column 8 line 8 and Figure 5A of Huang for reference to a node 500, which is a communication device)**. Huang also discloses a first interface operable to receive a plurality of packets with each packet being from a separate one of a group of media streams **(See column 7 line 65 to column 8 line 25 and Figures 5A-B and 6 of Huang for reference to using a transmit/receive interface 510 of the node 500 to receive packets at GIEC Node-X 602, which is a first network device, with the packets being from different media streams each having a common GIEC node in the streams)**. Huang further discloses each packet comprising a payload and a header **(See column 11 lines 34-47 and Figures 7A-C of Huang for reference to each packet received at a GIEC node including both a payload and a header)**. Huang also discloses a grouping module operable to generate a group packet comprising a group identifier **(See column 8 lines 26-49 and Figures 5A-B and 6 of Huang for reference to using both encapsulation module 534 and compression module 536, which act together as a grouping module, to combine packets into an encapsulation GIEC packet, which is a group packet, in step 556, compress packet headers in step 558, and add a GIEC header, which contains a group identifier, to the packet in step 560)**. Huang further discloses that the group packet includes a payload of each of the packets **(See column 8 lines 26-49, column 11 line 48 to column 13 line 5, and**

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**Figures 7D-F of Huang for reference to the encapsulation GIEC packet being in the different possible formats shown in Figures 7D-F with each format including the payloads of each of the encapsulated packets).** Huang also discloses a second interface operable to communicate the group packet for receipt by a remote device **(See column 8 lines 26-49 and Figures 5B and 6 of Huang for reference to using transmit/receiver interface 510, which acts as a second interface, to transmit the packet to a destination GIEC Node-Y 604, which is a remote device).** Huang does not disclose that each media stream is synchronous and identifying a group by determining that the streams have the same periodicity.

**With respect to claims 17, 30, and 33, Huang discloses a system and method for decompressing packets (See column 7 lines 22-39 of Huang for reference to a system and method for group packet encapsulation and compression and the corresponding method for group packet de-encapsulation and decompression).** Huang also discloses that the method and system is implemented as logic embedded in a computer readable medium **(See column 7 lines 49-64 of Huang for reference to the system functionality being implemented in software running on a device such as a personal computer).** Huang further discloses receiving a group setup message comprising a group identifier and state information for each media stream **(See column 9 lines 6-45 and Figure 6 of Huang for reference to each GIEC node including an association file 626 or 628 that includes a group identifier for the connections from another GIEC node and also includes a protocol**

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**association for the encapsulation and compression schemes used by each packet encapsulated in the encapsulation packet, which is state information for each media stream, and for reference to the association files being transmitted between two communication nodes prior to sending encapsulation packets between the nodes).** Huang also discloses receiving a group packet comprising the group identifier **(See column 8 lines 26-49 and Figures 5B and 6 of Huang for reference to receiving an encapsulation packet in step 564 that has been processed by combining packets into an encapsulation GIEC packet, which is a group packet, in step 556, compressing packet headers in step 558, and adding a GIEC header, which contains a group identifier, to the packet in step 560).** Huang also discloses that the group packet includes a payload of each of the packets **(See column 8 lines 26-49, column 11 line 48 to column 13 line 5, and Figures 7D-F of Huang for reference to the encapsulation GIEC packet being in the different possible formats shown in Figures 7D-F with each format including the payloads of each of the encapsulated packets).** Huang further discloses using the state information to reconstruct the headers of the payloads in the group packet and combine the reconstructed header with the corresponding payload to form a reconstructed packet **(See column 8 lines 26-49, column 9 lines 6-45, and Figures 5B and 6 of Huang for reference to using the information in the association file 626 or 628 to determine how to decompress the compressed headers of the encapsulation packet in step 566 and to determine how de-encapsulate and ungroup the packets to**

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**reform the corresponding packets).** Huang does not disclose that each media stream is synchronous and identifying a group by determining that the streams have the same periodicity.

**With respect to claim 23,** Huang discloses a communication device **(See column 7 line 65 to column 8 line 8 and Figure 5A of Huang for reference to a node 500, which is a communication device).** Huang also discloses a memory operable to store a group setup message comprising a group identifier and state information for each media stream **(See column 9 lines 6-45 and Figure 6 of Huang for reference to each GIEC node including an association file 626 or 628 in a memory that includes a group identifier for the connections from another GIEC node and also includes a protocol association for the encapsulation and compression schemes used by each packet encapsulated in the encapsulation packet, which is state information for each media stream, and for reference to the association files being transmitted between two communication nodes prior to sending encapsulation packets between the nodes).** Huang further discloses an interface operable to receive a group packet comprising the group identifier **(See column 7 line 65 to column 8 line 49 and Figures 5B and 6 of Huang for reference to receiving at transmit/receive interface 510 an encapsulation packet in step 564 that has been processed by combining packets into an encapsulation GIEC packet, which is a group packet, in step 556, compressing packet headers in step 558, and adding a GIEC header, which contains a group identifier, to the packet in step 560).** Huang also discloses



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that the group packet includes a payload of each of the packets (**See column 8 lines 26-49, column 11 line 48 to column 13 line 5, and Figures 7D-F of Huang for reference to the encapsulation GIEC packet being in the different possible formats shown in Figures 7D-F with each format including the payloads of each of the encapsulated packets**). Huang further discloses a processor operable to reconstruct the headers of the payloads in the group packet and combine the reconstructed header with the corresponding payload to form a reconstructed packet (**See column 8 lines 26-49, column 9 lines 6-45, and Figures 5B and 6 of Huang for reference to using both encapsulation module 534 and compression module 536, which act as a processor using the information in the association file 626 or 628 to determine how to decompress the compressed headers of the encapsulation packet in step 566 and to determine how de-encapsulate and ungroup the packets to reform the corresponding packets**). Huang does not disclose that each media stream is synchronous and identifying a group by determining that the streams have the same periodicity.

**With respect to claims 1, 7, 11, 16-17, 23, 30, and 33, Yamaji, in the filed of communications discloses synchronous media streams and identifying a group by determining that the streams have the same periodicity (See column 4 line 49 to column 5 line 6, column 7 lines 49-56, and Figures 1-4 of Yamaji for reference to data streams that are synchronous and for reference to determining that a group of streams has substantially the same period and grouping these streams into a single packet). Using synchronous media**

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streams and identifying a group by determining that the streams have the same periodicity has the advantage of allowing data that is arriving at a node the same rate and time to be transmitted from the node in a combined signal such that multiple data streams are combined into a single easier to manage data stream.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Yamaji, to combine using synchronous media streams and identifying a group by determining that the streams have the same periodicity, as suggested by Yamaji, with the system and method of Huang, with the motivation being to allow data that is arriving at a node the same rate and time to be transmitted from the node in a combined signal such that multiple data streams are combined into a single easier to manage data stream.

**With respect to claims 3, 9, and 13, Huang discloses generating a group setup message comprising the group identifier and state information for each media stream and communicating the group setup message to the second or remote network device (See column 9 lines 6-45 and Figure 6 of Huang for reference to each GIEC node including an association file 626 or 628 that includes a group identifier for the connections from another GIEC node and also includes a protocol association for the encapsulation and compression schemes used by each packet encapsulated in the encapsulation packet, which is state information for each media stream, and for reference to the association files being transmitted between two**

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**communication nodes prior to sending encapsulation packets between the nodes).**

**With respect to claims 4 and 14, Huang discloses that the state information enables the second network device to reconstruct the headers of the payloads in the group packet and reform the corresponding packets from the reconstructed headers and corresponding payloads (See column 8 lines 26-49, column 9 lines 6-45, and Figures 5B and 6 of Huang for reference to using the information in the association file 626 or 628 to determine how to decompress the compressed headers of the encapsulation packet in step 566 and to determine how de-encapsulate and ungroup the packets to reform the corresponding packets).**

**With respect to claims 18, 24, and 31, Huang discloses determining a first portion of the header based on the state information (See column 9 lines 6-45, column 11 line 48 to column 13 line 5, and Figures 7D-F of Huang for reference to using the association file 626 or 628 to determine the protocol format used to encapsulate the packets such the heads of each encapsulated packets can be located according to the protocol used as shown in Figures 7D-F). Huang also discloses determining a second portion of the header by applying decompression to the first portion of the header (See column 8 lines 26-49 and Figure 5B of Huang for reference to decompressing the located headers in step 566). Huang further discloses reconstructing the header from the first in second portions (See column 8 lines 26-49 and Figure 5B for reference to using the compressed header to**

**reconstruct the header and reform the originally encapsulated packets by ungrouping the packets in steps 568 and 570).**

**With respect to claims 20 and 26, Huang discloses that the group packet includes the group setup message by including the group identifier and the state information (See column 11 line 48 to column 13 line 5 and Figure 7E of Huang for reference to the encapsulation packet, as in the embodiment of Figure 7E, including an IP header, which includes the group identifier, and also including HC headers for each packet that includes information about the compression used on each header of each packet in the encapsulation packet, such that the group setup message is included in the group packet).**

**With respect to claims 22 and 29, Huang discloses receiving updated state information and updating the corresponding state information (See column 9 lines 28-45 of Huang for reference to updating association information dynamically between two communication nodes by transmitting updated information between the nodes).**

**With respect to claim 27, Huang discloses that the interface is operable to receive a group setup message comprising the group identifier and the state information (See column 9 lines 6-45 of Huang for reference to transmitting the association information between nodes with the nodes using the transmit/receive interface 510 to receive association information).**

**With respect to claims 6 and 10, Huang does not specifically disclose multiplexing group packets into a multiplexed packet.**

**With respect to claims 6 and 10**, Yamaji et al., in the field of communications, discloses multiplexing group packets into a multiplexed packet **(See column 7 lines 49-56, and Figures 1-4 of Yamaji for reference to multiplexing a plurality of group packets into a multiplexed pack)**.

Multiplexing group packets into a multiplexed packet has the advantage of allowing large groups of packets to be transmitted from the node in a combined signal such that multiple data streams are combined into a single easier to manage data stream.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Yamaji, to combine multiplexing group packets into a multiplexed packet, as suggested by Yamaji, with the system and method of Huang, with the motivation being to allow large groups of packets to be transmitted from the node in a combined signal such that multiple data streams are combined into a single easier to manage data stream.

4. Claims 5, 15, 19, 25, and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Yamaji and in further view of Tang et al. (U.S. Publication 2001/0025321 A1).

**With respect to claims 5, 15, 19, 25, and 32**, although Huang does disclose packets that are IP packets carried over UDP **(See column 7 lines 40-48 of Huang for reference to using IP/UDP packets)**, and the combination of Huang and Yamaji does disclose compressing packet headers for transmission and decompressing the headers on reception, Huang does not disclose

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compressing each packet into a compressed UDP packet at the transmitting node and decompressing the cUDP packet at the receiving node.

**With respect to claims 5, 15, 19, 25, and 32**, Tang et al., in the field of communications, discloses compressing packets to be sent as a group packet into cUDP packets and decompressing the cUDP packets upon reception (**See page 2 paragraph 23 of Tang et al. for reference to compressing and decompressing packets to and from cUDP packets**). Compressing packets to be sent as a group packet into cUDP packets and decompressing the cUDP packets upon reception has the advantage of using a well know and established compression protocol to reduce the amount of information of a packet and thus the bandwidth needed to send the packet over a communication link between nodes.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Tang et al., to combine compressing packets to be sent as a group packet into cUDP packets and decompressing the cUDP packets upon reception, as suggested by Tang et al., with the system and method of Huang and Yamaji, with the motivation being to use a well know and established compression protocol to reduce the amount of information of a packet and thus the bandwidth needed to send the packet over a communication link between nodes.

***Allowable Subject Matter***

5. Claims 21 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 3-7, 9-11, and 13-33 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jenkin et al. (U.S. Pat. 6088351) discloses identifying a group of data streams to form a single data stream based on the streams having the same period.

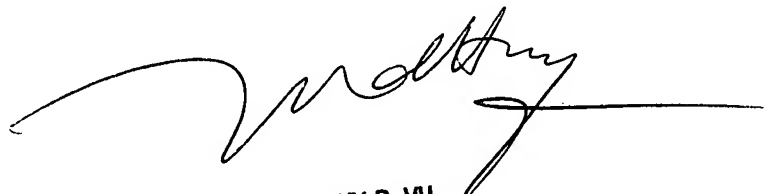
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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